

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A data-driven processor provided with a memory with n (where n is any integer of at least 2) regions each having a k-bit length (where k is any positive integer), comprising an operation processing portion for performing an operation on data stored in said n regions of said memory (hereinafter referred to as memory data), said operation processing portion including:

prescribed operation performing means for ~~(i)~~ performing a prescribed operation on said memory data and said k-bit length data stored in a data field of an applied data packet in accordance with a prescribed operation instruction, ~~(ii)~~ dividing a result of said prescribed operation into a plurality of said k-bit length data, and ~~(iii)~~ outputting a plurality of said data packets storing said plurality of k-bit length data obtained by the division in said data fields;

data accumulating means for ~~(i)~~ receiving said plurality of data packets output from said prescribed operation performing means, and for each of received plurality of data packets, ~~(ii)~~ accumulating said k-bit length data in said data field of the received data packet on the memory data in said region at a

prescribed address of said memory, ~~(iii)~~ storing the accumulation result excluding overflowing data in that region, and ~~(iv)~~ outputting the received data packet storing said overflowing data in said data field; and

overflowing data accumulating means for ~~(i)~~ receiving said data packet storing said overflowing data in said data field, ~~(ii)~~ accumulating said overflowing data in said data field of the received data packet onto the memory data in the region at an upper prescribed address different from said prescribed address in said memory, ~~(iii)~~ storing the accumulation result excluding said overflowing data in the region, and ~~(iv)~~ outputting the received data packet storing said overflowing data in said data field, wherein

the accumulation of said overflowing data by said overflowing data accumulating means is repeated as long as the accumulation causes said overflowing data in the region at said prescribed address.

2. (Original) The data-driven processor according to claim 1, wherein

said operation processing portion further includes overflow determining means for determining if said overflowing data occurs

in the region at said prescribed address by the accumulation, and the accumulation is performed on said overflowing data by said overflowing data accumulating means in response to a determination by said overflow determining means that said overflowing data occurs in the region.

3. (Original) The data-driven processor according to claim 1, wherein

when two multiple-precision data each having a m (where m is any integer satisfying $n*k \geq m$)-bit length are subjected to said prescribed operation, data obtained by dividing one of said multiple-precision data by every said k -bit length are stored in the n regions of said memory as said memory data, respectively, and data obtained by dividing the other of said multiple-precision data by every said k -bit length are stored in said data fields of said n data packets, respectively, which are sequentially applied to said prescribed operation performing means.

4. (Original) The data-driven processor according to claim 1, wherein

said data packet further includes a generation field storing a generation number for uniquely identifying said data packet, and

said prescribed address is designated based on a content of said generation field of said data packet.

5. (Previously Presented) The data-driven processor according to claim 1, wherein

each of said data accumulating means and said overflowing data accumulating means is operated in accordance with an operation instruction for receiving said applied data packet, accumulating a content of said data field in the received data packet on the memory data in said region at said prescribed address of said memory, storing the accumulation result excluding overflowing data in said region, and storing said overflowing data in said data field of the received data packet for output.

6. (Currently Amended) A data processing method in a data-driven processor provided with a memory with n (where n is any integer of at least 2) regions each having a k -bit length (where k is any positive integer) and storing data in said n regions (hereinafter referred to as memory data), comprising:

a prescribed operation performing step for ~~(i)~~—performing a prescribed operation on said memory data and the data having said k -bit length stored in a data field of an applied data packet in

accordance with a prescribed operation instruction, ~~(ii)~~dividing the result of said prescribed operation into a plurality of said k-bit length data, and ~~(iii)~~outputting a plurality of said data packets storing said plurality of k-bit length data obtained by said division in said data fields, respectively;

a data accumulating step for ~~(i)~~accumulating said k-bit length data in said data field of said data packet on memory data in said region at a prescribed address of said memory, ~~(ii)~~receiving said plurality of data packets output from said prescribed operation performing step, and for each of received plurality of data packets, ~~(iii)~~storing the accumulation result excluding overflowing data in the region, and ~~(iv)~~outputting said data packet storing said overflowing data in said data field; and

an overflowing data accumulating step for ~~(i)~~receiving said data packet storing said overflowing data in said data field, ~~(ii)~~accumulating said overflowing data in said data field of the received data packet on the memory data in said region at an upper prescribed address different from said prescribed address in said memory, ~~(iii)~~storing the accumulation result excluding said overflowing data, and ~~(iv)~~outputting the received data packet storing said overflowing data in said data field, wherein the accumulation of said overflowing data by said overflowing data

Appl. No. 09/879,004

accumulating step is repeated as long as the accumulation causes said overflowing data in the region at said prescribed address.